1. RICE LAKE NATIONAL WILDLIFE REFUGE MINN.

2. MILLE LACS REFUGE MINN.

3. SANDSTONE UNIT MINN.

1971

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UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF SPORT FISHERIES & WILDLIFE

FISH AND WILDLIFE SERVICE

MC GREGOR, MINNESOTA

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REFUGE PERSONNEL

Carl E. Pospichal	Refuge Manager
Leonard F. Hurd	Maintenanceman
Leland A. Thornbloom	Biological Technician

W.A.E. EMPLOYEES

Dwight C. Bailey	Laborer, Farm
John A. Nordstrand	Laborer, Farm

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C O N T E N T S

RICE LAKE NATIONAL WILDLIFE REFUGE

NARRATIVE REPORT

JANUARY - DECEMBER, 1971

I GENERAL

A. Weather Conditions:

	Precipitation				Max.	Min.
	Month	Normal	Snowfall		Temp.	Temp.
January	.64	.633	22.0		30	-27
February	2.11	.599	25.4		47	-32
March	.97	1.239	10.2		46	-19
April	.99	2.343	6.5		73	4
May	2.78	3.716	2.0		78	27
June	4.84	4.071	-		88	38
July	3.75	4.440	-		84	39
August	2.55	3.970	-		89	36
September	1.62	2.749	-		87	26
October	6.90	1.575	2.0		76	27
November	2.12	1.258	6.5		59	- 3
December	.85	.725	12.0		34	-19
Annual Totals	30.12	27.318	86.6	Extremes	89	-32

The moisture listings for months in which snow fell include the precipitation which fell as rain and the snowfalls which were melted for measurement here at refuge headquarters. As usual our temperature data came from the Government Weather Station at the Sandy Lake Dam, located 23 miles north of refuge headquarters.

January was a bitter cold month with below zero readings recorded on 25 days. However, daytime temperatures were usually above zero which helped. Twenty-two inches of snow was received during the month.

February began cold and snowy. Average on ground snow depth on February 5, was 24 inches. By the middle of the month mild daytime temperatures began settling snow depths with a maximum for the month of 47 degrees. February 26 began as a mild, cloudy day. However, by noon it began raining, then turned to wet, heavy snow with strong winds. By evening there was six inches of wet snow and by morning 13 inches. The snow clung to everything and its sheer weight broke down trees, telephone and power lines. Headquarters and the residences were without power or heat from 11:30 p.m. Friday to 8:00 a.m. Sunday.

April and May were typical spring months. Several days of warm weather would be followed by the same of cold. April was not particularly a wet month but was cloudy and cool so the ground didn't dry. In early May ground conditions were very wet and no field work could be done. In general, May was fairly warm, but wet. On May 19, we had our last snowfall of the season. About two inches fell but melted rapidly.

June for the most part was unseasonably warm. It seemed as though we had either a northeast or east wind from Lake Superior which made it cool or we had southwest winds and hot humid weather. Temperatures in the high eighties were recorded on several occasions.

July, August and September had below normal precipitation. July and August were hot and dry, although rains were spaced just right to make haying difficult for area farmers. September was about normal temperaturewise, but cloudy, dark rainy days prevailed. The first light frosts came on September 19 & 22.

October was a miserable month with rain occurring on 15 days and the other days cloudy, dark and threatening rain. In fact October was the wettest recorded here since records began in 1945. October of 1970 was the second wettest recorded. Heavy frosts occurred October 12 and 13.

The weather moderated some and November settled down to a typical month. Then a week of rainy weather sat in from the 14th to 20th and brought precipitation for the month to above normal. This additional moisture added to that received in October made all off-road travel impossible and filled Rice River to overflowing. At the end of the month water levels were subsiding slightly. Snowfall for the month totalled 6.5 inches.

December recorded only 12 inches of snow which was way below that received in previous years. Temperatures were quite constant and very little cold weather received.

B. Habitat Conditions:

1. Water:

The ice went out of Rice River on April 12, and by April 21, Rice Lake was also ice-free. High water peaks were 98.10 for the Rice Lake control on April 22, and 99.50 for the Rice River control on April 14. Water levels were dropping by May 19, when two inches of snow fell. Heavy rains came late in the month. All controls were closed in June when rainfall was lighter at 4.84 inches. It was possible to hold elevations at or near approved levels with minor control adjustments. In late October heavy rains made considerable release of water necessary. Ground water rose with 6.90 inches of rain and all swampy areas were saturated and draining at the end of the year.

Rice Lake was frozen over by November 6, as was part of Rice River. The lake gauge on that date was 97.00 and the river 97.30. Total snowfall for the year was 86.6 inches and total moisture 30.12 inches, about three inches above normal.

Habitat conditions for waterfowl were excellent throughout the summer.

2. Food and Cover:

Food and cover production was excellent this year with good water control possible. The wild rice beds were good and wild celery heavy. Pondweeds produced excellent crops of seed. Roundstem bulrushes and other emergents provided excellent brood cover. Loafing spots along the Rice River and on Rice Lake were heavily used where available. More of this type of habitat is needed here.

Cultivated crops produced fairly well and the combination of heavy fall rains with potholes adjacent to the fields, made duck use of oats and buckwheat especially good. Geese also used corn, browse and crop units.

Wood duck roosts on Rice Lake and Rice River were used. Wakefield Brook was again a favorite spot and the Beaver Pool built a couple of years ago developed into an excellent roost area.

II WILDLIFE

A. Migratory Birds:

1. Whistling Swans:

Ice conditions were still quite heavy when the peak of the swan migration passed through this area. Again, the first swans using the refuge for feeding and resting came during the third week of April. Thirty-one birds made up the peak use during the spring. By the end of April all had left. One bird was trying vainly to remove a tight red neck band during the entire period of observation, probably ten minutes.

No summer use was observed.

Flocks of whistling swans were seen frequently after mid-October when the first of these birds dropped in on Rice Lake. The high population was 300 swans the first week of November. The next week the final 200 departed as the water areas froze over.

Total swan use was 4,711 use days, 1,841 more than in 1970.

2. Geese:

For the second year, no Canada geese remained on the refuge during the winter. All had migrated by the second week of November.

Eighty-three Canadas arrived on March 29, and built to a peak in mid-April. By April 20, some nesting was in progress. About half of the nesting population moved off the refuge to nest and data on nesting were gathered from over most of Aitkin County. Several were repeats from previous years. One 14 pound gander shot Easter Sunday near it's nest on the refuge was donated to the Wood Lake Nature Center May 6.

Refuge production was about the same as in 1970 with 150 young produced. Outside nesting contributed a like number to the population and these began to gather at the refuge when fledged in late July and during August.

Outside flights continued throughout the fall, especially to ponds, rice paddies and lakes. The peak fall population of 2,500 was reached in late September and early October. By mid-October there were also 500 lesser Canadas using the refuge. All geese left the refuge area by the second week of November.

As usual, blue and snow goose populations fluctuated drastically with only 30 present during the spring as compared with 300 a year ago.

The fall population was 3,500 in mid-October as compared to the previous year's peak of 800. Some flocks only remained on the refuge a few hours and many passed through without stopping.

A few white-fronted geese were present in early May.

Total refuge goose use was 199,451 days. This was 17,983 more than a year ago.

3. Ducks:

Ten mallards arrived with the geese on March 29, though there was little open water and that was below the Rice Lake control. A week later there were a few wood ducks and hooded mergansers on the refuge but still very little open water. The peak of just under 14,000 during the last week of April was about 2,000 less than last year. Most summer resident species plus migrants were here by that time.

Ducks, geese and coots all showed some increase in summer use over 1970. Black duck use was down by nearly half, as were pintails. Wood duck use nearly doubled. The total duck production of 2,080 young was up about ten per cent with green-winged teal showing the most increase.

The fall peak was up over a year ago by 19,000 mostly due to a larger concentration of ringnecks. Use days were up nearly 200,000. Ringnecks had been down slightly in 1970.

Total duck use for 1971 was 4,585,070 or 166,092 over the previous year.

4. Coots:

Arrival of 50 coots during the second week of April was the same time schedule as for several years past. The peak of 300 in late April was down by about 40 per cent by the summer population of 100 was equal to 1970. Fifty young were produced.

A slight buildup was evident during July and August. The peak of 30,000 was double the 1970 peak. This was higher than for several other recent years. A drop-off began by mid-October and by the end of the month nearly all coots had departed.

Total 1971 use days were 750,400, more than double recent years.

Total waterfowl use of the refuge in 1971 reached 5,539,632 days, more than a million increase over the previous year.

5. Other Water Birds:

Great blue herons returned to the rookery along Rice River but not to the island. The first was seen on April 7, and about 50 used the refuge until late fall. Total use was estimated down about 50 per cent.

Common loons were calling by April 20, though habitat was still coming out of winter ice. Peak use was five birds. Mandy Lake and Rice River were favored use areas.

Double-crested cormorants, though no longer nesters on the refuge, did visit occasionally. They were first seen April 29.

Pied-billed grebes were common summer residents. Horned grebes and eared grebes were occasional in spring and fall. Red-necked grebes were spring visitors.

American bitterns were common, spring through fall. Green herons were seen occasionally.

A pair of sandhill cranes arrived back at the refuge on April 11, and remained throughout the summer. One young bird was noted with the adults in the fall.

Sora and Virginia rails were common during the summer, being heard much more frequently than seen.

Belted Kingfishers arrived by mid-April and were present until late fall.

6. Shorebirds, Gulls and Terns:

Killdeer were the usual first arrivals, some noted by March 30. Nesting was common on trails and fields. Common snipes were present throughout the spring and summer. The wet meadows and flooded bogs made excellent habitat for these birds. Spotted sandpipers were the most common of the summer residents. Lesser yellowlegs were fairly common with greater yellowlegs seen during migrations. During those periods semi-palmated plovers, golden plovers, pectoral sandpipers and least sandpipers used the refuge flats and pool margins.

Herring gulls and ring-billed gulls were refuge visitors from early spring through late fall, with the latter more common.

Common and black terns were summer residents, May to September.

B. Upland Game Birds:

Ruffed grouse populations on various refuge areas were fair to good. Drumming was in progress by mid-April. Production was promising but the fall population was not up to expectations. Brood mortality appeared heavy through natural losses.

Sharp-tailed grouse held their own numbers at about 30 to 40 birds using the refuge as well as adjoining lands.

Birch, hazel, aspen and in the spring, pussy willows provided good cool season food for grouse. Birch and hazel seemed to get preference.

Woodcocks used the refuge lightly with limited nesting in a few favored areas. The spring migration is generally very early, with snow sometimes present when the first birds are noted. Surveys should be run in late April in this area. The fall migration was light with no concentrations noted on the refuge.

C. Big Game Animals:

The refuge carried a light winter population of white-tailed deer. Major concentrations were off the refuge but these animals had moved back into summer range from winter yards by early April. Early winter was fairly easy but heavy snows in January and February put a stress on these animals for an extended period. Mortality on the refuge was low but reports of predation in adjacent areas were common. Coyotes were most blamed, though dogs were the ones actually observed in the chase.

The fawn crop was fairly good, with twins seen regularly. The overall population was below that of the previous several years. There were enough animals in public use areas to permit visitors the pleasure of seeing them.

The population for fall hunting did not justify a season for fire-arms. This was also the case in much of northern Minnesota. The bow and arrow season brought light hunting and no known kills.

Moose were uncommon on the refuge but tracks and occasional reports showed they still use the refuge. One large bull was frequently noted on a farm adjacent to the south refuge line. A cow was seen October 18, in the north bog by Bailey and Nordstrand and previously by state personnel.

Black bear were seen occasionally by refuge personnel and several times were reported by visitors. The population remained fairly

stable since a occasional kill adjacent to the refuge provides a control. Refuge oak trees showed the usual fall damage from feeding bears.

D. Fur Animals, Predators, Rodents and Other Mammals:

Mink were down in numbers but did use areas of suitable habitat throughout the refuge. Muskrats were fairly common. Fur prices on both species discouraged trapping.

Otters are a special treat to wildlife observers. Since they are so mobile, outside trapping took a few. The refuge population remained quite stable. No refuge trapping was permitted.

Beaver were distributed over the entire refuge, in lakes, streams, ditches and ponds. In most areas they are beneficial in holding water and providing a sight for visitors. School groups were especially fascinated. Many beaver cuttings were handled by these youth groups. A season was opened but local interest in trapping was low. Problem areas were taken care of by refuge personnel.

Weasels were again common.

Red foxes continued a downward trend. Old dens were not used in several areas but some fox pups were seen. Trapping along the refuge boundary brought these down to an occasional animal.

Coyotes have increased in numbers to the extent that they were commonly heard and sometimes seen. A den of three pups was located on the east side of the refuge.

Raccoons reached a low not experienced for several years. Sick animals were noted in early spring. Signs along water areas were not heavy as before.

Badgers used the refuge lightly with no notable change in population as experienced by digging or sightings.

Bobcats were also present in low numbers. Their range of travel carries them well off the refuge. One large specimen was caught in a wood duck trap and released. Its arrogance and face-saving retreat were a sight to behold.

Skunks were seen regularly. Control was light and in conjunction with other operations.

Porcupines remained common on the refuge. Most feeding was on deciduous trees and damage did not warrant control.

Red squirrels were common, grays light in numbers and fox squirrels rare. Flying squirrels were seen occasionally.

Chipmunks and 13-lined ground squirrels were common. Franklin's ground squirrels were present but scarce. Other small mammals included meadow and red-backed voles, deer mice, kangaroo mice, star-nosed moles, least and short-tailed shrews. Little brown bats were most common of the bats.

E. Hawks, Eagles, Owls, Crows, Ravens and Magpies:

Hawk numbers showed little variation from last year with major movements through this area in April and September. Sparrow hawks were most common but a fair population of red-tailed hawks and broadwings remained through the summer. Occasional goshawks were seen year-round. Roughlegs were most common spring and fall but sometimes one was seen in winter. Marsh hawks were only fairly common. Cooper's and sharp-shinned were less commonly seen. Turkey vultures were occasional visitors, as were ospreys. This bird could find suitable refuge nesting habitat but does not as yet. It is a fairly common nester in this general area. Northern shrikes were seen throughout the winter.

By early March the refuge nesting pair of bald eagles could be seen. The nesting was apparently successful as two young were observed. The peak fall population was on November 1. On that date, four adults and 14 young were noted. The last observation was one adult on December 5.

Owls were seen in about the same numbers as in previous years except that barred owls seemed slightly less common and the predicted influx of snowy owls brought only a very few of these birds. Great-horned owls persisted in fair numb rs. Screech, saw-whet and long-eared owls were less common but present. No great-gray owls were noted this period.

Crows were common, with a few in the vicinity throughout the year. This is uncommon but spillage from grain trucks along the highways may be enough to sustain them in mid-winter. Ravens could be seen almost daily in the winter. Magpies were infrequent visitors.

F. Other Birds:

Records were kept on small bird observations. Most species on the refuge list were seen. Pine grosbeaks were especially common during the late fall. One eastern meadowlark stayed at the refuge head-quarters until mid-December, in spite of snow cover.

G. Fish:

Fish salvage operations on Rice Lake ran until March 16, about ten days longer than in 1970. Oxygen depletion at trap sites put an end to the operation. During the spring a good run of northern pike again entered the refuge. Production was excellent. Salvage operations by D.N.R. for restocking Minnesota lakes resumed on October 18, with installation of lake outlet trap but trap leads were left open until November. Total take for the year was 47,731 northern pike weighing 13,379 pounds. Several tons of rough fish including yellow perch, bullheads, dogfish and burbot were also taken.

Good populations of fish were available for summer fishermen.

H. Reptiles and Amphibians:

Garter snakes remained the most common refuge reptile. Green snakes and red-bellied snakes were less common. Painted and snapping turtles were present in good numbers.

Spotted salamanders, leopard frogs, mink and copper frogs, spring peepers, tree toads and common toads were all common.

I. Disease:

Illness among raccoons was noted during the spring and the population is down. Distemper was suspected.

III REFUGE DEVELOPMENT & MAINTENANCE

A. Physical Development & Maintenance:

Much time was spent in rehabilitation of refuge roads and trails, including raising to all-weather status and replacing or installing culverts.

Several dikes were raised and animal runs filled. Debris removed from controls and cement work grouted.

Roads were maintained, some graveled and roadsides mowed. Culverts were rip-rapped.

Maintenance of buildings, picnic area, fishing area, etc., involved much painting, mowing and garbage hauling.

Fences were repaired and removed as needed on both Rice Lake and Sandstone.

All septic tanks were serviced.

Roads at Sandstone were bladed by cooperation with prison labor. An underground power line was installed at Sandstone to service refuge neighbors.

B. Plantings:

1. Aquatic and Marsh Plants:

The Government share of wild rice from the Indian rice harvest was seeded back into Rice Lake in the area immediately in front of the rice landing. After donations to other organizations this amounted to 3,787 pounds. (See Collections and Receipts.)

2. Trees and Shrubs:

None.

3. Upland Herbaceous Plants:

None.

3. Cultivated Crops:

Twenty-eight acres of corn produced an estimated yield of 35 bushels/acre.

Oats planted on 24 acres yieled 25 bushels/acre and 23 acres of buckwheat an estimated yield of 15 bushel/acre.

Due to wet weather conditions crops were planted in early June. All grain was completely utilized by waterfowl and other wildlife.

C. Collections and Receipts:

The wild rice harvest began September 8, 1971 and ended September 20, 1971. The number of boats varied from a high of 55 to a low of 19. The following table shows the number of boats on the lake for the ten actual days of ricing.

Date	No. Boats	Date	No. Boats
9/8	53	9/14	47
9/9	55	9/15	24
9/11	49	9/16	41
9/12	50	9/18	19
9/13	50	9/20	20

During the ten day harvest period a total of 51,085 pounds of rice was picked. The Government share of eight per cent amounted to 4,087 pounds. Two hundred pounds of this amount was donated to the Minnesota Department of Natural Resources for seeding the newly developed Kimberly Marsh and 100 pounds was donated to the U.S. Forest Service for seeding in the Chequamegon National Forest in Wisconsin. The balance of 3,787 pounds was put back into Rice Lake for reseeding.

The Manager and Biological Technician attended a pre-ricing meeting on September 3. This was just a general meeting to discuss mutual problems. One interesting observation was the Indians had pretty much decided on the number of boats to allow and to start ricing on a set date without a preliminary survey to determine whether the rice was ripe and whether the quantity was sufficient to warrant the number of boats they wanted. Upon the Managers insistance, Sam Yankee and his wife volunterred to check the crop. George Aubid, the apparent leader, refused as it took too much time with no pay. After discussion the Indians decided to hold their own auction and sale at Yankee Hall instead of at the landing.

After Yankee's survey the Committee chose the starting date of September 8, 1971. They also determined 55 boats would be the maximum allowed. The local Indians that weren't allowed to rice last year were put back on. In addition, there were several persons on that had never riced here before. Generally, the operation went smoothly and few problems were encountered. Last year the Committee requested weekends off, but this year they riced the first weekend and took off Sunday the second weekend. The Committee again requested an extension to rice more than ten days. This request was denied.

Ricing conditions were better than last year. Higher water levels made poling easier and more area available. Weather conditions during the ricing period was fair. Some rain occurred but there wasn't many windy days. Of 55 boats issued permits the average number of canoes on the lake for the ten days came to 48. This was a higher average than usual and was probably due to the lack of wind and higher water levels.

On September 9, 11 and 12 the Indians sold their rice for $1.18 a pound. They then contracted to one buyer for the balance at $1.15 per pound. Many Indians took their rice home to finish and sell themselves. They feel they make more money this way. Again, rice quality was down due to less care taken in harvesting. The average season take per boat (less the Govt. share of 8%) amounted to 979 pounds. The average number of boats picking for the ten days was 48 and the lowest number picking on any one day was 19.

D. Control of Vegetation:

Roadside mowing was done on all refuge roads and trails. Thistle patches were mowed before the bloom stage.

E. Planned Burning:

None.

F. Fires:

None.

IV RESOURCE MANAGEMENT

A. Grazing:

One permittee grazed a total of 15 animals for 75 AUM's.

B. Haying:

Nine permittees cut a total of 575 tons of hay. The increase in tonnage over past years was due to hay being cut on the Sandstone Unit. One permittee cut and removed 250 tons. This was the first hay cutting since the unit became part of the refuge.

C. Fur Harvest:

None.

D. Timber Removal:

Permits were issued to Alfred Koski and Ben Kangas for removal of aspen pulpwood. The two sales totalled 250 cords and a return of $275.00.

E. Commercial Fishing:

None.

F. Other Uses:

None.

V FIELD INVESTIGATIONS OR APPLIED RESEARCH

A. FISH SALVAGE:

See "Fish."

B. Waterfowl Banding:

The five year ring-necked duck banding program continued. This is in cooperation with the Minnesota Department of Natural Resources. Night-lighting was employed using three boats with two-man crews. One crew was the Refuge Manager, Pospichal, and Biological Technician Thornbloom. The quota of 500 plus ringnecks were captured in three nights.

Banding information for the first year shows high hunting mortality. Of 364 immature birds banded, 17.6% were shot and reported the first hunting season. The adult segment of banded birds were shot at about half the rate of immatures, or 8.1% recovery.

Of the immatures, 77% were recovered in Minnesota. Of the adults plus immatures, 60% of the state recoveries were from Aitkin County. The rest were recovered north and west of the refuge.

Indications of wintering show a band from Florida to Louisiana. No birds captured here had been previously banded. Six were flapper hens.

Half the banded birds recovered in Minnesota were taken during the first week of the hunting season. Only one was recovered in November.

Reasons for outside flights showing high mortality are under investigation.

Wood duck banding showed 61 birds banded in September.

C. Canada Goose Flock:

The study on dispersal of the refuge Canada goose flock outside of the refuge continued. Data were compiled for later write-up.

VI PUBLIC RELATIONS

A. Recreational Uses:

As in the past many people drove through the refuge in the hopes of seeing some form of wildlife.

Once again the refuge was used by 4-H groups for conservation education and also to assist the refuge in litter cleanup.

The picnic area continues to be a popular spot and use continues to increase.

Fishing brought in many users. It is surprising how many people like to fish from a bridge. Some bring their coolers, grills and chairs and settle in for the day. It is also strange how possessive fishermen become of a bridge and seem to resent any use by automobiles.

B. Refuge Visitors:

See attached list.

C. Refuge Participation:

See attached list.

D. Hunting:

1. Deer Hunting:

Because of a relatively low deer population in much of northern Minnesota, the gun deer season was not held in this area in 1971. Bow and arrow deer hunting was permitted on the refuge. Although there were a number of bowmen trying their luck, no bow-killed deer were observed. The early winter population was fairly good in some portions of the refuge but overall lower than for several years. The exception was the previous post-season population.

2. Waterfowl:

Many waterfowlers have up early in the season and things didn't get much better. The hunting was about as poor as in any recent

Name	Organization	Date
Bob Drieslein	Sherburne NWR	1/25
James Kimball	Minneapolis Tribune Writer	1/29
D. Umberger	Bureau	2/24
Joe Wilson	State Forestry Division	3/10
Harry Pinkham	USGMA	3/16
Larry Bunge	State Forestry Division	4/12
Dave Dickey	State Game Manager	4/12
H. McLaine	Government Auditor	5/17
James Monnie	Bureau	5/19-21
Travis Roberts	Bureau Regional Director	9/20
James Monnie	Bureau	9/22-23
Forrest Carpenter	Bureau	10/29
Harry Pinkham	USGMA	12/22

In addition there were many visits by Lester Dundas, Staff Specialist of the R.O., local foresters, game wardens, timber cruisers, Minnesota State Fish Rescue crews and others too numerous to list.

Mr. John Gill, Instructor of Wildlife Technology at the Brainerd Vocational-Technical School was a frequent refuge caller and uses the refuge for student field trips.

Group	Date	Participation
Cuyuna Range Sportsmens Club	3/4	Slides and talk
Dam Lake Sportsmens Club	3/5	Attend - Public Relations
Cloquet Senior High School	4/20	Talk and tour
Duluth 4-H Club	5/22	Talk and tour
Hibbing Grade School	5/26	Talk and tour
Cloquet Biology Class	6/10	Talk and tour
McGregor Head-Start Classes	6/21	Talk and tour
Covenant Pines Bible Group	7/16	Tour
Senior Citizens - Aitkin	7/20	Talk and tour
Long Lake Conservation Center	7/22	Talk and banding demonstration
McGregor Trade Fair	7/23-24	Exhibit
Long Lake Conservation Center	8/5	Talk and banding demonstration
Long Lake Conservation Center	8/19	Talk and banding demonstration
Lutheran Church Group	8/26	Talk and tour
Brainerd Tech.-Vocational School	9/16	Talk and tour
Cloquet Junior High	10/5	Talk and tour
McGregor Lions Club	12/13	Talk and film

In addition there were many small refuge tours for visitors and miscellaneous small groups.

year. Ringnecks again took the brunt of the pressure as their flights out of the refuge exposed them to gunning on local waters. The only bright spot was increased flights, mostly from the refuge, to local rice paddies. Those with hunting privileges had good luck. A new development for this area was the signs of a firing line adjacent to the paddies. The new Kimberly Marsh, developed by the State, plus these rice paddies, will put previously unknown strains on both the refuge duck and goose populations. This could be especially hard on the refuge Canada goose flock. The potential for paddy-type marsh development on this refuge is extensive and excellent. This has been recommended in the past and should receive further consideration for the near future. It could help to balance the attractiveness of the refuge and outside paddies where abundant food is available in just a few inches of water or on drained flats.

3. Grouse Hunting:

The refuge huntable grouse population was moderate to good as the fall progressed. Hunting in the heavy cover was tough early in the season and few hunters used dogs. Even fewer were the good dogs. Boundary pot-shooting got its usual heavy play in areas reachable by car.

E. Fishing:

Excellent fishing was enjoyed by northern pike anglers on the refuge fishing area. Although most fish were not large, they were gladly taken. Bullhead fishing was fairly good in the evenings. The refuge facilities provide easy access for older people with a minimum of equipment.

F. Violations:

Information bulletin boards and maps surely discouraged or prevented some problems, as did patrol. Minor infractions were encountered. The lack of a gun deer season prevented some problems which usually develop with high hunter concentrations.

There were no observations of ricing trespass but some evidence of night entry on the south side of Rice Lake was noted.

Press and other public information releases cut snowmobile trespass to some extent. Evidence of deer-chasing was noted on one occasion. Posting did not discourage all trespass in the vicinity of the bald eagle nest as this area was entered several times. Local suspects were located through discussion with other snowmobilers.

G. SAFETY:

Staff meetings involving discussions, movies, slides and other materials were held periodically.

VII OTHER ITEMS

A. Sandstone Unit:

Close contact was kept with prison training and administrative personnel to maintain cooperation and get refuge work accomplished. Some road blading and repairs were accomplished with prison labor and equipment. Progress on dike construction was held up by other prison jobs.

Fence removal in interior lines yielded materials for exterior boundaries and removed some from areas to be flooded. A beaver dam has already started some of this.

An easement was given to the North Pine Rural Electric Cooperative for an underground power line which was installed per agreement.

A portion of the area was mowed to improve wildlife habitat. Adequate grasslands were maintained for the promising sharp-tailed grouse population.

The deer population is down slightly and this was desirable in view of the previous high. Populations of furbearers native to this area, as well as ruffed grouse and other wildlife species appeared good. Both snow and Canada geese used the refuge area in small numbers and several species of ducks were noted.

Further fencing remains to be done and further conferences with the prison staff will be necessary for mutual understanding as there have been recent personnel changes. The firing range has been discontinued and it is hoped that some environmental education work will be possible there in the near future.

B. Items of Interest:

The Refuge Manager prepared Section I, part B, Section II, Section III, part A, Sections V, VI, VII, of this report. The Biological Technician prepared Section I, part A, Section III, parts B., C., D., E., Section IV, and portions of VI and VII. He also assembled and typed the report.

Under the revenue sharing program a check for $383.36 was presented to the Pine County Auditor and a check for $3,854.25 to the Aitkin County Auditor for use on schools and roads.

The Refuge Manager continued as 4-H leader in several projects and on County 4-H committees.

All photos were taken by Pospichal and Thornbloom and processed by Pospichal.

Submitted by:

Carl E. Pospichal
(Signature)

Carl E. Pospichal
Refuge Manager

Date: May 18, 1972

Approved, Regional Office:

Date: MAY 22 1972

James R. Moore
(Signature)

ASST

Regional Refuge Supervisor

71-1

Whitetails

L.A.T.

71-2

Pair of Hooded Mergansers

L.A.T.

71-3

Earth nesting island with brush, usually the preferred site type at Rice Lake.

L.A.T.

71-4

Sometimes flotsam is good enough.

L.A.T.

71-5

Canada goose eggs hatching.

L.A.T.

71-6

Indian Mound.

C.E.P.

71-7

Hoar Frost.

C.E.P.

71-8

Hutari Pool in its first year -

Small stoplog structure controlled.

Excellent waterfowl use.

C.E.P.

71-9

This buldozed pond on the Peterson tract also provided excellent habitat.

C.E.P.

71-10

Birch Pond created by installation of a simple plug dike - several waterfowl broods produced here.

C.E.P.

71-11

Alsike clover planting along suitable areas of 8 miles of refuge trails produced excellent growth used by grouse, deer and other wildlife.

C.E.P.

71-12

Brush control to set back aspen growth in retired field - preferred wildlife habitat.

C.E.P.

71-13

Natural white cedar reproduction - usually a difficult accomplishment. This is on bulldozed-cleared soil.

C.E.P.

71-14

Results of fall webworm infestation (per Extension Entomologist) in late summer.

C.E.P.

71-15

Webworms crossing refuge trail.

C.E.P.

71-16

A canopy and paint job dressed up and improved the TD-24 acquired from surplus.

C.E.P.

71-17

Pipe arch culvert installation and road raising. Old cement culvert was inadequate and deteriorated and this area was a snowtrap.

C.E.P.

71-18

Same area with 10 feet of fill and rip-rap. Road beyond was raised and slopes seeded after topsoil was replaced.

C.E.P.

3-1750
Form N
(Rev. M ch 1953)

WATERFOWL

REFUGE Rice Lake MONTHS OF January TO April, 1971

(1) Species	Weeks of reporting period (2)									
	Jan				Feb.				March	
	1 - 9	10 - 16	17 - 23	24 - 30	31 - 6	7 - 13	14 - 20	21 - 27	28 - 6	7 - 13
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada										
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard										
Black										
Gadwall										
Baldpate										
Pintail										
Green-winged teal										
Blue-winged teal										
Cinnamon teal										
Shoveler										
Wood										
Redhead										
Ring-necked										
Canvasback										
Scaup										
Goldeneye										
Bufflehead										
Ruddy										
Other										
Coot:										

Int. Dup. Sec., Wash., D.C. 37944

3-1750a
Co[illegible] NR-1
([illegible] March 1953)

WATE[illegible] OWL
(Continua[illegible]on Sheet)

REFUCE Rice Lake MONTHS OF January TO April, 19 71

(1) Species	(2) Weeks of reporting period: March 11 20 / 21 12 28 / April 13 3 / 4 14 10 / 11 15 17 / 18 16 24 / 25 17 / May 1 / 18	(3) Estimated waterfowl days use	(4) Production: Broods seen	(4) Production: Estimated total
Swans:				
Whistling	31 1 1	231		
Trumpeter				
Geese:				
Canada	83 200 550 450 400	11,981		
Cackling				
Brant				
White-fronted				
Snow	10 30 10	350		
Blue				
Other				
Ducks:				
Mallard	10 50 300 1000 2000	23,520		
Black	10 100 200	2,170		
Gadwall				
Baldpate	100 1500 2500	28,700		
Pintail	10 400 500	7,000		
Green-winged teal	100 300 1500	13,300		
Blue-winged teal	200 500 2000	18,900		
Cinnamon teal				
Shoveler	30 200 300	3,710		
Wood	10 50 300 400	5,320		
Redhead				
Ring-necked	10 500 1000	10,570		
Canvasback				
Scaup	10 300 3000	23,170		
Goldeneye	50 200 100	2,450		
Bufflehead	10 300 100	2,870		
Ruddy				
Other Hooded Merganser	10 50 500 200	5,320		
Coots: Common Merganser	10 50 10	490		
Coots:	50 200 300	3,850		

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans	231	30	
Geese	12,131	560	
Ducks	147,490	13,810	
Coots	3,850	550	

SUMMARY

Principal feeding areas Rice Lake, Rice River pool, ponds and potholes

Principal nesting areas

Reported by Carl E. Poscichal, refuge manager

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.

(2) Weeks of Reporting Period: Estimated average refuge populations.

(3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.

(4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(5) Total Days Use: A summary of data recorded under (3).

(6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.

(7) Total Production: A summary of data recorded under (4).

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1953

3-1750
Form N
(Rev. M..ch 1953)

WATERFOWL

REFUGE Bigs Lake MONTHS OF May TO August, 19 71

(1) Species	Weeks of reporting period (2)									
	May 1 2 - 8	2 9 - 15	3 16 - 22	4 23 - 29	June 5 30 - 5	6 6 - 12	7 13 - 19	8 20 - 26	July 9 27 - 3	10 4 - 10
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada	350	350	350	400	400	350	350	350	350	350
Cackling										
Brant										
White-fronted	10									
Snow										
Blue										
Other										
Ducks:										
Mallard	1,500	1,000	500	500	500	750	1,000	1,000	1,000	1,000
Black	100	50	50	50	50	60	80	80	80	80
Gadwall	---	---	---	---	---	---	---	---	---	---
Baldpate	1,500	1,000	500	500	500	500	700	800	1,000	1,000
Pintail	50	50	10	10	10	10	10	10	20	20
Green-winged teal	2,000	1,500	1,000	1,000	800	200	200	200	300	300
Blue-winged teal	2,500	2,500	3,000	2,000	1,500	750	750	750	1,000	1,000
Cinnamon teal	---	---	---	---	---	---	---	---	---	---
Shoveler	200	100	50	50	30	30	30	30	50	50
Wood	400	400	400	400	500	500	500	500	500	600
Redhead	100	50	50	10	10	10	20	20	20	20
Ring-necked	500	500	300	100	150	200	200	200	250	250
Canvasback	50	50	10	10	10	20	20	20	20	20
Scaup	2,000	3,000	1,000	500	500	300	100	50	20	20
Goldeneye	50	10	10	20	20	20	20	20	20	20
Bufflehead	50	10	10	---	---	---	---	---	---	---
Ruddy	---	---	---	---	---	---	---	---	---	---
Other Hooded Merg.	100	100	100	100	200	200	200	200	200	200
	200	200	150	100	100	50	100	100	100	150
Coot:										

Int. Dup. Sec., Wash., D.C. 37944

3-1750a
Co[illegible] NR-1
([illegible] March 1953)

WATE[illegible] OWL
(Continuation Sheet)

REFUCE Rice Lake MONTHS OF May TO August, 19 71

(1) Species	(2) Weeks of reporting period: July 11 - 17 (11)	July 18 - 24 (12)	July 25-31 (13)	Aug. 1-7 (14)	Aug. 8-14 (15)	Aug. 15-21 (16)	Aug. 22-28 (17)	Sept. 29-4 (18)	(3) Estimated waterfowl days use	(4) Production: Broods seen	(4) Production: Estimated total
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada	350	350	350	350	400	400	400		43,400	31	150
Cackling											
Brant											
White-fronted									70		
Snow											
Blue											
Other											
Ducks:											
Mallard	1,000	1,000	1,200	1,200	1,500	1,500	2,000		127,050	21	250
Black	80	80	80	80	100	100	100		9,100	2	20
Gadwall	—	—	—	—	—	—	—		—	—	—
Baldpate	1,000	1,200	1,200	1,200	1,500	2,000	2,000		126,700	33	400
Pintail	20	20	20	20	50	100	100		3,710	2	20
Green-winged teal	300	300	300	300	500	800	800		75,600	14	150
Blue-winged teal	1,000	1,000	1,000	1,000	1,200	1,500	1,500		167,650	27	400
Cinnamon teal	—	—	—	—	—	—	—		—	—	—
Shoveler	50	50	50	50	50	50	50		6,790	2	20
Wood	600	600	600	600	800	800	800		67,900	23	350
Redhead	20	20	20	20	20	20	20		3,150	1	10
Ring-necked	200	200	200	200	200	200	200		28,350	9	80
Canvasback	20	20	20	20	20	20	20		2,730	1	10
Scaup	20	20	20	20	20	20	20		53,410	1	10
Goldeneye	20	20	20	20	20	20	20		2,450	1	10
Bufflehead	—	—	—	—	—	—	—		490	—	—
Ruddy	—	—	—	—	—	—	—		—	—	—
Other Hooded Merg.	200	200	200	200	250	250	250		22,050	13	150
Coots:	150	150	150	150	150	150	200		16,450	8	50

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans	---	---	---
Geese	43,470	400	150
Ducks	697,130	11,100	1,880
Coots	16,450	200	50

SUMMARY

Principal feeding areas **Rice Lake, Rice River Pool and farm units.**

Principal nesting areas **Rice Lake margine and grasslands.**

Reported by Carl E. Pospichal

Carl E. Pospichal; Refuge Manager

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.

(2) Weeks of Reporting Period: Estimated average refuge populations.

(3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.

(4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(5) Total Days Use: A summary of data recorded under (3).

(6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.

(7) Total Production: A summary of data recorded under (4).

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1953

3-1750
Form NP[illegible]
(Rev. M[illegible]ch 1953)

WATERFOWL

REFUGE RICE LAKE

MONTHS OF SEPTEMBER TO DECEMBER, 19 71

(1) Species	Sept. 29 - 4	5 - 11	12 - 18	19 - 25	Oct. 26 - 2	3 - 9	10 - 16	17 - 23	24 - 30	Nov. 31 - 6
	Weeks of reporting period (2)									
Swans:										
Whistling							10	30	100	300
Trumpeter										
Geese:										
Canada	400	500	1,000	1,500	2,500	2,500	1,500	1,000	500	400
Cackling						150	500	250	50	
Brant										
White-fronted										
Snow						500	200	500	100	
Blue						2,000	1,000	3,000	500	
Other										
Ducks:										
Mallard	2,000	3,000	5,000	15,000	20,000	20,000	25,000	20,000	15,000	10,000
Black	100	100	200	1,000	1,000	1,000	1,500	1,500	500	100
Gadwall										
Baldpate	2,000	3,000	4,000	20,000	15,000	15,000	10,000	7,000	2,000	300
Pintail	100	200	500	2,000	1,500	1,500	1,000	1,000	200	
Green-winged teal	800	2,000	5,000	7,000	5,000	4,000	4,000	3,000	4,000	500
Blue-winged teal	1,500	5,000	10,000	15,000	10,000	5,000	1,000	50		
Cinnamon teal										
Shoveler	50	100	100	200	200	200	100	50		
Wood	800	1,200	1,500	2,000	2,500	2,500	2,500	1,500	500	200
Redhead	20	20	50	500	500	1,500	1,000	1,000	300	100
Ring-necked	200	300	500	10,000	30,000	35,000	55,000	20,000	10,000	5,000
Canvasback	20	20	50	100	500	300	1,000	500	200	100
Scaup	20	20	50	100	200	300	500	2,000	10,000	15,000
Goldeneye	20	10	10	20	20	20	30	50	100	100
Bufflehead						10	30	50	100	100
Ruddy			10	200	300	200	100			
Other H. Merganzer	250	300	300	500	500	500	500	500	300	200
Coot:	200	3,000	10,000	25,000	30,000	20,000	10,000	5,000	1,000	100

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3-1750a
Co[illegible] NR-1
([illegible] March 1953)

WATE[illegible] OWL
(Continuation Sheet)

REFUCE RICE LAKE MONTHS OF SEPTEMBER TO DECEMBER, 19 71

(1) Species	(2) Weeks of reporting period: Nov. 7	11	13	14	20	21	27	14	15	16	17	18	(3) Estimated waterfowl days use	(4) Production: Broods seen	(4) Production: Estimated total
Swans:															
Whistling	200												4,480		
Trumpeter															
Geese:															
Canada													82,600		
Cackling													6,650		
Brant															
White-fronted															
Snow													9,100		
Blue													45,500		
Other															
Ducks:															
Mallard	1,000												952,000		
Black													49,000		
Gadwall															
Baldpate													548,100		
Pintail													56,000		
Green-winged teal													226,100		
Blue-winged teal													332,850		
Cinnamon teal															
Shoveler													7,000		
Wood													106,400		
Redhead													34,930		
Ring-necked													1,162,000		
Canvasback													19,530		
Scaup	1,500												207,830		
Goldeneye	100												3,360		
Bufflehead	100												2,730		
Ruddy													5,670		
Other H. Merganzer													26,950		
Coots:													730,100		

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans	4,480	300	
Geese	143,850	5,150	
Ducks	3,740,450	103,260	
Coots	730,100	30,000	

SUMMARY

Principal feeding areas Rice Lake, Rice River Pool, Agricultural units.

Principal nesting areas

Reported by Carl E. Pospichal

Carl E. Pospichal; Refuge Manager

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.

(2) Weeks of Reporting Period: Estimated average refuge populations.

(3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.

(4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(5) Total Days Use: A summary of data recorded under (3).

(6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.

(7) Total Production: A summary of data recorded under (4).

Interior Duplicating Section, Washington, D. C.
1953

3-1751
Form NR-.
(Nov. 1945)

MIGRAT[illegible] BIRDS
(other than waterfowl)

Refuge Rice Lake Months of January to April 19[illegible]71

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. Water and Marsh Birds:										
Common Loon	1	4/20	5	4/30	Summer resident					
Pied-billed Grebe	1	4/14	50	4/30	Summer resident					
Double-crested Cormorant	1	4/29	2	4/30	Summer resident					
Great Blue Heron	3	4/7	50	4/30	Summer resident		(down about 50%)			
American Bittern					Not yet noted					
Belted Kingfisher	1	4/15	5	4/30	Summer resident					
Sandhill Crane	2	4/15	2	4/30	Summer resident					
II. Shorebirds, Gulls and Terns:										
Killdeer	3	3/30	20	4/30	(Down drastically from last year)					
Common Snipe	2	4/16	common by end of month							
Spotted Sandpiper					Not yet noted					
Lesser Yellowlegs	25	4/16	30	4/30						
Ring-billed Gull	20	4/15	20	4/30						
Herring Gull	10	4/15	10	4/30						

(over)

3-1751
Form NR-
(Nov. 1945)

MIGRAT[illegible] BIRDS
(other than waterfowl)

Refuge Rice Lake Months of May to August 1971

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. Water and Marsh Birds:										
Common Loon	4	5/1	Summer Resident							10
Horned Grebe	20	5/3	10	5/10						50
Pied-billed Grebe	50	5/1	Summer Resident							200
Great Blue Heron	80	5/1	Summer Resident				1	30	60	150
American Bittern	2	5/4	Summer Resident							100
Eastern Green Heron	1	5/18	Summer Resident							10
Sandhill Crane	2	5/1	Summer Resident							4
Sora	Summer Resident									500
Virginia Rail	Summer Resident									50
Belted Kingfisher	10	5/1	Summer Resident							20
II. Shorebirds, Gulls and Terns:										
Lesser Yellowlegs	10	5/1	Summer Resident							200
Common Snipe	100	5/1	Summer Res.							500
Killdeer	50	5/1	Summer Res.							100
Spotted Sandpiper	3	5/3	Summer Res.							250
Common Tern	150	5/26	Summer Res.							300
Black Tern	50	5/26	Summer Res.							400
Herring Gull	5	5/1	Summer Visitor							20
Ring-billed Gull	20	5/1	Summer Visitor							50

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. Doves and Pigeons:					
Mourning dove	Uncommon Summer Resident				10
White-winged dove					
IV. Predaceous Birds:					
Bald~~xxxx~~ Golden eagle	Summer Resident			1 1	10
Duck hawk	Migrant Visitor				4
Horned owl	Resident				20
~~xxxxx~~ Barred Owl	Resident				30
~~Magpie~~ Raven	Resident				20
Crow	Resident				500
Goshawk	Res.				4
Broad-winged Hawk	Summer Resident				20
Red-tailed Hawk	Summer Res.				30
Marsh Hawk	Summer Res.				20
Rough-legged Hawk	Summer Visitor				10
Sparrow Hawk	Summer Resident				150
Cooper's Hawk	1 5/9	Summer Resident			4
Sharp-shinned Hawk	Summer Res.				10
Osprey	Summer Visitor				4
Turkey Vulture	Summer Visitor				10

Reported by Carl R. Ingvalson

INSTRUCTIONS

(1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes)
II. Shorebirds, Gulls and Terns (Charadriiformes)
III. Doves and Pigeons (Columbiformes)
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total number of the species using the refuge during the period concerned.

INT.-DUP. SEC., WASH., D.C.

59317

3-1751
Form NR
(Nov. 1945)

MIGRATORY BIRDS
(other than waterfowl)

Refuge RICE LAKE Months of September to December 1971

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. Water and Marsh Birds:										
Pied-billed grebe	Summer	resident	50	9/25	1	11/2				
Great Blue heron	"	"	100	10/15	2	10/28				
American bittern	"	"	60	10/15	1	10/15				
Sora	"	"	300	9/13	1	9/24				
Virginia Rail	"	"	30	9/1	1	9/24				
Sandhill Crane	"	"	4	10/12	2	11/2				
Belted Kingfisher	"	"	10	9/28	1	11/2				
II. Shorebirds, Gulls and Terns:										
Killdeer	Summer	resident	100	9/1	2	10/12				
Semi-palmated plover	5	9/15	5	9/15	2	9/17				
Golden plover	10	9/13	10	9/13	5	9/17				
Common snipe	Summer	resident	400	9/17	1	10/12				
Spotted sandpiper	Summer	resident	100	9/13	1	11/3				
Pectoral sandpiper	10	9/8	50	9/15	5	9/17				
Least sandpiper	10	9/8	10	9/8	3	9/15				
Lesser yellowlegs	30	9/1	100	9/13	2	10/28				
Black tern	Summer	resident	150	9/15	10	9/22				
Common tern	Summer	resident	100	9/13	5	9/24				
Ring-billed gull	Summer	visitor	50	10/25	10	11/2				
Herring gull	Summer	visitor	20	10/25	2	11/2				

(over)

(1)	(2)		(3)		(4)		(5)	(6)
III. Doves and Pigeons:								
Mourning dove	1	10/12						
White-winged dove								
Osprey	Occasional visitor							
Turkey vulture	2	9/8			4	9/22		
IV. Predaceous Birds:								
Bald ~~Golden~~ eagle	Summer resident		18	11/1	1	12/5		
~~Duck hawk~~ G. Eagle	1	12/26	1	12/26	1	12/26		
Horned owl	Resident		10	9/1	1	11/30		
~~Magpie~~ N. shrike	1	10/20			2	12/31		
Raven	Resident		10	10/29				
Crow	Resident		500	10/12	2	12/31		
Barred owl	Resident		20	9/1				
Screech owl	Resident		10	9/1				
Snowy owl	1	11/13	1	11/14	1	12/23		
Marsh hawk	Summer resident		25	9/8	3	11/2		
Rough-legged hawk	"	"	20	9/8	10	11/13		
Broad-winged hawk	"	"	20	9/8				
Red-tailed hawk	"	"	15	9/8	5	11/2		
Goshawk	Resident		1	12/3	1	12/25		
Sparrow hawk	Summer resident		75	9/8				
Sharp-shinned hawk	"	"	5	9/18				
Cooper's hawk	1	10/7						

Reported by Carl E. Pospichal

Carl E. Pospichal; Refuge Manager

INSTRUCTIONS

(1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes)
II. Shorebirds, Gulls and Terns (Charadriiformes)
III. Doves and Pigeons (Columbiformes)
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total number of the species using the refuge during the period concerned.

INT.-DUP. SEC., WASH., D.C.

59317

3-1750b
Form NR-1B
(Rev. Nov. 1957)

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge ~~Rice Lake~~ For 12-month period ending August 31, 19 71

Reported by Carl E. Pospichal Title ~~Carl E. Pospichal~~ ~~Refuge Manager~~

(1) Area or Unit Designation	(2) Habitat Type	(2) Habitat Acreage	(3)	(3) Use-days	(4) Breeding Population	(5) Production
Rice Lake	Crops	---	Ducks	3,100,000	1,000	400
	Upland	---	Geese	30,000	10	25
	Marsh	500	Swans	2,500	---	---
	Water	4,500	Coots	285,000	50	50
	Total	5,000	Total	3,417,500	1,060	475
Rice River Pool	Crops	---	Ducks	800,000	300	200
	Upland	240	Geese	40,000	14	25
	Marsh	1,550	Swans	531	---	---
	Water	1,200	Coots	10,000	---	---
	Total	2,990	Total	850,531	314	225
Rice River and Tributaries	Crops	---	Ducks	250,000	600	600
	Upland	245	Geese	45,000	26	40
	Marsh	340	Swans	---	---	---
	Water	65	Coots	5,000	---	---
	Total	650	Total	300,000	626	640
Ponds, Potholes and Ditches	Crops	---	Ducks	98,000	1,000	610
	Upland	175	Geese	10,000	50	60
	Marsh	1,065	Swans	---	---	---
	Water	73	Coots	500	---	---
	Total	1,313	Total	108,500	1,050	670
Mandy and Twin Lakes	Crops	---	Ducks	25,000	50	20
	Upland	70	Swans	811	---	---
	Marsh	100	Coots	---	---	---
	Water	106	Total	4,000	---	---
	Total	276		29,811	50	20
Agricultural Units	Crops	241	Ducks	128,740	50	50
	Upland	97	Geese	63,000	---	---
	Marsh	---	Swans	---	---	---
	Water	---	Coots	---	---	---
	Total	338	Total	191,740	50	50
Grand Total	Crops	241	Ducks	4,401,740	3,000	1,880
	Upland	827	Geese	188,811	100	150
	Marsh	3,555	Swans	3,031	---	---
	Water	5,944	Coots	304,500	50	50
	Total	10,567	Total	4,898,082	3,150	2,080

(over)

INSTRUCTIONS

All tabulated information should be based on the best available techniques for obtaining these data. Estimates having no foundation in fact must be omitted. Refuge grand totals for all categories should be provided in the spaces below the last unit tabulation. Additional forms should be used if the number of units reported upon exceeds the capacity of one page. This report embraces the preceding 12-month period, NOT the fiscal or calendar year, and is submitted annually with the May-August Narrative Report.

(1) Area or Unit: A geographical unit which, because of size, terrain characteristics, habitat type and current or anticipated management practices, may be considered an entity apart from other areas in the refuge census pattern. The combined estimated acreages of all units should be equal the total refuge area. A detailed map and accompanying verbal description of the habitat types of each unit should be forwarded with the initial report for each refuge, and thereafter need only be submitted to report changes in unit boundaries or their descriptions.

(2) Habitat: Crops include all cultivated croplands such as cereals and green forage, planted food patches and agricultural row crops; upland is all uncultivated terrain lying above the plant communities requiring seasonal submergence or a completely saturated soil condition a part of each year, and includes lands whose temporary flooding facilitates use of non-aquatic type foods; marsh extends from the upland community to, but not including, the water type and consists of the relatively stable marginal or shallow-growing emergent vegetation type, including wet meadow and deep marsh; and in the water category are all other water areas inundated most or all of the growing season and extending from the deeper edge of the marsh zone to strictly open-water, embracing such habitat as shallow playa lakes, deep lakes and reservoirs, true shrub and tree swamps, open flowing water and maritime bays, sounds and estuaries. Acreage estimates for all four types should be computed and kept as accurate as possible through reference to available maps supplemented by periodic field observations. The sum of these estimates should equal the area of the entire unit.

(3) Use-days: Use-days is computed by multiplying weekly waterfowl population figures by seven, and should agree with information reported on Form NR-1.

(4) Breeding Population: An estimate of the total breeding population of each category of birds for each area or unit.

(5) Production: Estimated total number of young raised to flight age.

Interior Duplicating Section, Washington, D. C. 27580

3-1750c
Form N[illegible].C
(Sept. 1960)

WATERFOWL HUNTER KILL SURVEY

Refuge Rice Lake N.W.R.

Year 19~~6~~1971

(1) Weeks of Hunting	(2) No. Hunters Checked	(3) Hunter Hours	(4) Waterfowl Species and Nos. of Each Bagged	(5) Total Bagged	(6) Crippling Loss	(7) Total Kill	(8) Est. No. of Hunters	(9) Est. Total Kill
			No waterfowl hunting on refuge.					

(over)

INSTRUCTIONS

(1) The first week of hunting begins with opening day and ends at the close of hunting 6 days later. Successive weeks follow the same pattern.

(2) The goal is to survey a minimum of 25 percent of refuge hunters each week and to record data only from those who have completed their day's hunting. This information should be collected during each day of the week and in each area hunted in relative proportion to the hunter effort expended. When the 25 percent goal cannot be achieved, particular care should be taken to collect representative data.

(3) Record the total number of hours the hunters spent hunting on the refuge.

(4) List waterfowl species in decreasing order of numbers bagged. Sample entry: Mallard (61), Pintail (36), Redhead (16), Gadwall (11), Widgeon (6), Coot (4), Canada Goose (3), Green-winged Teal (1).

(5) Record total numbers of waterfowl bagged.

(6) Record total numbers of waterfowl reported knocked down but not recovered.

(7) Total of Columns 5 and 6.

(8) Estimate the total number of hunters who hunted on the refuge during the week, including hunters checked (Column 2).

(9) Kill sample projected to 100 percent. Column 9 = $\frac{\text{Column 8}}{\text{Column 2}}$ x Column 7.

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge Rice Lake Months of January to April, 19 71

*

(1) Species	(2) Density	(3) Young Produced			(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres Per Bird	Number broods observed	Estimated Total	Percentage	Hunting	For Re-stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ruffed Grouse	8,000 acres timber and brush	27							300	About same as 1970; drumming by mid-April
Sharp-tailed Grouse	2,000 acres grass, brush & cropland	100							20	Spring count down some but more birds noted around refuge.
Woodcock	5,000 acres timber and grass-brush	500							10	Very little evidence of Woodcock use through April

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS*

(1) SPECIES: Use correct common name.

(2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.

(4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.

(5) REMOVALS: Indicate total number in each category removed during the report period.

(6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.

(7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

*Only columns applicable to the period covered should be used.

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge Rice Lake Months of May to August, 19 71

(1) Species	(2) Density	(3) Young Produced			(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres Per Bird	Number broods observed	Estimated Total	Percentage	Hunting	For Re-stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ruffed Grouse	5,000 acres timber and brush	10	11	200					500	Production appeared about equal to 1970
Sharp-tailed Grouse	1,200 acres grass, brush and cropland	30	3	30					40	More young observed than a year ago. Probably a slight increase.
Woodcock	8,000 acres timber, brush, grass and marsh	160	—	20					50	Occasional observations but none on singing route.

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS*

(1) SPECIES: Use correct common name.

(2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.

(4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.

(5) REMOVALS: Indicate total number in each category removed during the report period.

(6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.

(7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

*Only columns applicable to the period covered should be used.

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge RICE LAKE Months of SEPTEMBER to DECEMBER, 1971

*

(1) Species	(2) Density	(3) Young Produced			(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres Per Bird	Number broods observed	Estimated Total	Percentage	Hunting	For Re-stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ruffed grouse	5,000 acres timber & brush	16	10	200		100			300	
Sharp-tailed grouse	1,200 acres grass, brush & upland	30	3	20					50	
Woodcock	8,000 acres timber brush, grass & marsh	160		10					50	

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS*

(1) SPECIES: Use correct common name.

(2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.

(4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.

(5) REMOVALS: Indicate total number in each category removed during the report period.

(6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.

(7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

*Only columns applicable to the period covered should be used.

3-1[illegible]3
Form [illegible]NR-3
(June 1945)

BI[illegible]GAME

Refuge RICE LAKE Calendar Year 1971

(1) Species	(2) Density	(3) Young Produced	(4) Removals				(5) Losses			(6) Introductions		(7) Estimated Total Refuge Population		(8) Sex Ratio
Common Name	Cover types, total Acreage of Habitat	Number	Hunting	For Re-stocking	Sold	For Research	Predation	Disease	Winter Loss	Number	Source	At period of Greatest use	As of Dec. 31	
White-tailed deer	12,000 acres marsh and upland	50										100	50	
Moose	" " " "											2	-	
Black bear	" " " "	5										10	5	

Remarks: Moose transient.
No state big game gun season - low deer population given as reason.

Carl E. Pospichal
Refuge Manager

Reported by Carl E. Pospichal

INSTRUCTIONS

Form NR-3 - BIG GAME

(1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisiana white-tailed deer.

(2) DENSITY: Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge: once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated total number of young produced on refuge.

(4) REMOVALS: Indicate total number in each category removed during the year.

(5) LOSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.

(6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.

(7) TOTAL REFUGE POPULATION: Give the estimated population of <u>each</u> <u>species</u> on the refuge at period of its greatest abundance and also as of Dec. 31.

(8) SEX RATIO: Indicate the percentage of males and females of each species as determined from field observations or through removals.

3-1
Form NR-4
(June 1945)

SMALL ANIMALS

Refuge Rice Lake Year ending April 30, 1971

(1) Species	(2) Density		(3) Removals					(4) Disposition of Furs						(5)
								Share Trapping						
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Fur Harvest	Predator Control *	For Re-stocking	For Re-search	Permit Number	Trappers Share	Refuge share	Total Refuge Furs Shipped	Furs Donated	Furs Destroyed	Total Population
Badger													10	→
Beaver													70	→
Franklin's Gr. Sq.													Uncommon	→
13-lined Gr. Sq.													Very common	→
Snowshoe Hare														Uncommon
Mink														30
Muskrat														150
River Otter														10
Porcupine														80
Cottontail rabbit														none noted
Raccoon					5									300
Striped Skunk					5									100
Fox Squirrel														Rare
Gray Squirrel														Fairly com.
Red Squirrel														Common
Flying Squirrel														Fairly com.
Chipmunk														Common
Weasel														Fairly com.
Woodchuck														Fairly com.
Red Fox														10
Coyote														6
Bobcat														5

* List removals by Predator Animal Hunter

REMARKS:

Reported by Carl E. Posrichal
Carl E. Posrichal, Refuge Mgr.

INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

(1) SPECIES: Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)

(2) DENSITY: Applies particularly to those species considered in removal programs. Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) REMOVALS: Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headingslisted.

(4) DISPOSITION OF FUR: On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimeness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.

(5) TOTAL POPULATION: Estimated total population of each species reported on as of April 30.

REMARKS: Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

3-1755
Form FWR-5
6070

DISEASE

Refuge Rice Lake N.W.R. Year 19 71

Botulism

Period of outbreak NONE

Period of heaviest losses _____

Losses:

	Actual Count	Estimated
(a) Waterfowl		
(b) Shorebirds		
(c) Other		

Number Hospitalized	No. Recovered	% Recovered
(a) Waterfowl		
(b) Shorebirds		
(c) Other		

Areas affected (location and approximate acreage) _____

Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc.

Condition of vegetation and invertebrate life _____

Remarks _____

Lead Poisoning or other Disease

Kind of disease NONE

Species affected _____

Number Affected Species	Actual Count	Estimated

Number Recovered _____

Number lost _____

Source of infection _____

Water conditions _____

Food conditions _____

Remarks _____

(1)

3-1757
Form NR-,
(Rev. June 1960)

NONAGRICULTURAL COLLECTIONS, RECEIPTS, AND PLANTINGS

Refuge Rice Lake N.W.R. Year 1971

Species	Collections and Receipts (Seeds, rootstocks, trees, shrubs)						Plantings (Marsh - Aquatic - Upland)						
	Amount (Lbs., bus., etc.)	(2) C or R	Date	Method or Source	Cost	(3) Total Amount on Hand	Location of Area Planted	Rate of Seeding or Planting	Amount Planted (Acres or Yards of Shoreline)	Amount and Nature of Propagules	Date	Survival	Cause of Loss
Wild Rice	4,086	C	9/8 to 9/20	Hand flail by Indians			Area to north east of landing to 200 yards off shore	40#/acre	90 acres	wild rice	9/8 to 9/20	Unknown	

(1) Report agronomic farm crops on Form NR-8
(2) C = Collections and R = Receipts
(3) Use "S" to denote surplus

Total acreage planted:
Marsh and aquatic 90
Hedgerows, cover patches
Food strips, food patches
Forest plantings

Remarks: 200 pounds retained and donated to the State of Minnesota for planting into their new Kimberly development adjacent to refuge.
* Results of survival will not be known until spring and summer of 1972.

3-175[illegible]
Form NR-8
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge RICE LAKE N.W.R. County AITKIN - PINE State MINNESOTA

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return				Total Acreage Planted	Green Manure, Cover and Waterfowl Browsing Crops Type and Kind	Total Acreage
			Harvested		Unharvested				
	Acres	Bu./Tons	Acres	Bu./Tons	Acres	Bu./Tons			
Corn					28	35	28	Mowed hay strips	145
Oats					24	25	24	Rye	21
Buckwheat					23	15	23		
								Fallow Ag. Land	

No. of Permittees: Agricultural Operations _____ Haying Operations 9 Grazing Operations 1

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	GRAZING	Number Animals	AUM'S	Cash Revenue	ACREAGE
				1. Cattle	15	75	$ 75.00	
				2. Other				
				1. Total Refuge Acreage Under Cultivation				250
Hay - Wild	575		$ 575.00	2. Acreage Cultivated as Service Operation				250

DIRECTIONS FOR PREPARING FORM NR-8
CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested - Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested - Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops - Specify the acreage, kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.

INT.DUP.,D.C.61-88850

3-1570
NR-8a

REFUGE GRAIN REPORT

Refuge RICE LAKE N.W.R. Months of JAN. through DECEMBER, 1971

(1) Variety*	(2) On Hand Beginning of Period	(3) Received During Period	(4) Total	(5) Grain Disposed of				(6) On Hand End of Period	(7) Proposed or Suitable Use*		
				Transferred	Seeded	Fed	Total		Seed	Feed	Surplus
Corn	225	-	225			50	50	175		175	
Rye	83	-	83		23		23	60	60		
Oats	48		48		29		29	19	19		

(8) Indicate shipping or collection points

(9) Grain is stored at Refuge Grainery

(10) Remarks

*See instructions on back.

16—61482-1

NR-8a

REFUGE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)—55 lb., corn (ear)—70 lb., wheat—60 lb., barley—50 lb., rye—55 lb., oats—30 lb., soy beans—60 lb., millet—50 lb., cowpeas—60 lb., and mixed—50 lb. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

(1) List each type of grain separately and specifically, as flint corn, yellow dent corn, square deal hybrid corn, garnet wheat, red May wheat, durum wheat, spring wheat, proso millet, combine milo, new era cowpeas, mikado soy beans, etc. Mere listing as corn, wheat, and soybeans will not suffice, as specific details are necessary in considering transfer of seed supplies to other refuges. Include only domestic grains; aquatic and other seeds will be listed on NR–9.

(3) Report all grain received during period from all sources, such as transfer, share cropping, or harvest from food patches.

(4) A total of columns 2 and 3.

(6) Column 4 less column 5.

(7) This is a proposed break-down by varieties of grain listed in column 6. Indicate if grain is suitable for seeding new crops.

(8) Nearest railroad station for shipping and receiving.

(9) Where stored on refuge: "Headquarters granary," etc.

(10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

16—61482-1 U. S. GOVERNMENT PRINTING OFFICE

3-1761
Form NR-

TIMBER REMOVAL

Refuge RICE LAKE N.W.R. Year 1971

Permittee	Permit No.	Unit or Location	Acreage	No. of Units Expressed in B. F., ties, etc.	Rate of Charge	Total Income	Reservations and/or Diameter Limits	Species Cut
Alfred Koski	70-11	Compt. 9		170 Cords	$203.00	$203.00		Aspen

Total acreage cut over.....

Total income $203.00

No. of units removed B. F.....

Cords 170

Ties.....

.....

Method of slash disposal Dispersal

3-1979 (NR-12)
(9/63)

Bureau of Sport Fisheries and Wildlife

ANNUAL REPORT OF PERSTICIDE APPLICATION

Refuge: RICE LAKE NWR

Proposal Number:

Reporting Year: 1971

INSTRUCTIONS: Wildlife Refuges Manual, secs, 3252d, 3394b and 3395.

Date(s) of Application	List of Target Pest(s)	Location of Area Treated	Total Acres Treated	Chemical(s) Used	Total Amount of Chemical Applied	Application Rate	Carrier and Rate	Method of Application
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		NONE						

10. Summary of results (continue on reverse side, if necessary)

35500

3-1750
Form N
(Rev. March 1953)

WATERFOWL

REFUGE [illegible] LAKE

MONTHS OF SEPTEMBER TO DECEMBER, 19[illegible]

(1) Species	Sept. 29-4	5-11	12-18	19-25	Oct. 26-2	Weeks of reporting period (2) 3-9	10-16	17-23	24-30	Nov. 31-6
Swans:										
Whistling							10	30	100	300
Trumpeter										
Geese:										
Canada	400	500	1,000	1,500	2,500	2,500	1,500	1,000	500	400
Cackling						150	500	250	50	
Brant										
White-fronted										
Snow						500	200	500	400	
Blue						2,000	1,000	3,000	500	
Other										
Ducks:										
Mallard	2,000	3,000	5,000	15,000	20,000	20,000	25,000	20,000	15,000	10,000
Black	100	100	200	1,000	1,000	1,000	1,500	1,500	500	100
Gadwall										
Baldpate	2,000	3,000	4,000	20,000	15,000	15,000	10,000	7,000	2,000	300
Pintail	100	200	500	2,000	1,500	1,500	1,000	1,000	200	
Green-winged teal	800	2,000	5,000	7,000	5,000	4,000	4,000	3,000	4,000	500
Blue-winged teal	1,000	5,000	10,000	15,000	10,000	5,000	1,000	50		
Cinnamon teal										
Shoveler	50	100	100	200	200	300	100	50		
Wood	800	1,200	1,500	2,000	2,500	2,500	2,500	1,500	500	200
Redhead	20	20	50	500	500	1,500	1,000	1,000	300	100
Ring-necked	200	300	500	10,000	30,000	35,000	35,000	20,000	10,000	5,000
Canvasback	20	20	50	100	500	300	1,000	500	200	100
Scaup	20	20	50	100	200	300	500	2,000	10,000	15,000
Goldeneye	20	10	10	20	20	20	30	50	100	300
Bufflehead						10	30	50	100	100
Ruddy			10	200	300	200	100			
Other H. Merganser	250	300	300	500	500	500	500	500	300	200
Coot:	200	3,000	10,000	25,000	30,000	20,000	10,000	5,000	1,000	100

Int. Dup. Sec., Wash., D.C. 37944

3-1750a
C[illegible] NR-1
(Rev. March 1953)

WATE[illegible] OWL
(Continuation Sheet)

REFUCE RICE LAKE MONTHS OF SEPTEMBER TO DECEMBER, 19 71

(1) Species	(2) Weeks of reporting period: Nov. 7	11	13	14	20	21	27	14	15	16	17	18	(3) Estimated waterfowl days use	(4) Production: Broods seen	Estimated total
Swans:															
Whistling	200												4,480		
Trumpeter															
Geese:															
Canada													82,600		
Cackling													[illegible]		
Brant															
White-fronted															
Snow													[illegible]		
Blue													[illegible]		
Other															
Ducks:															
Mallard	1,000												952,000		
Black													[illegible]		
Gadwall															
Baldpate													[illegible]		
Pintail													[illegible]		
Green-winged teal													[illegible]		
Blue-winged teal													[illegible]		
Cinnamon teal															
Shoveler													[illegible]		
Wood													[illegible]		
Redhead													[illegible]		
Ring-necked													[illegible]		
Canvasback													[illegible]		
Scaup	1,500												[illegible]		
Goldeneye	100												[illegible]		
Bufflehead	100												[illegible]		
Ruddy													[illegible]		
Other H. Merganser													[illegible]		
Coots:													730,100		

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans	4,480	320	
Geese	143,350	5,150	
Ducks	3,740,450	133,250	
Coots	730,100	30,050	

SUMMARY

Principal feeding areas Rice Lake, Rice River Pool, Agricultural units.

Principal nesting areas

Reported by Carl E. Pospichal

Carl E. Pospichal; Refuge Manager

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.

(2) Weeks of Reporting Period: Estimated average refuge populations.

(3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.

(4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(5) Total Days Use: A summary of data recorded under (3).

(6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.

(7) Total Production: A summary of data recorded under (4).

Interior Duplicating Section, Washington, D. C.
1953

3-1751
Form NR-1a
(Nov. 1945)

MIGRATORY BIRDS
(other than waterfowl)

Refuge RICE LAKE Months of September to December 1945 x71

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. Water and Marsh Birds:										
Pied-billed grebe	Summer	resident	30	9/25	1	11/2				
Great Blue heron	"	"	100	10/15	2	10/28				
American bittern	"	"	60	10/15	1	10/15				
Sora	"	"	300	9/13	1	9/24				
Virginia Rail	"	"	30	9/1	1	9/24				
Sandhill Crane	"	"	4	10/12	2	11/2				
Belted Kingfisher	"	"	10	9/25	1	11/2				
II. Shorebirds, Gulls and Terns:										
Killdeer	Summer	resident	100	9/1	2	10/12				
Semi-palmated plover	5	9/15	5	9/15	2	9/17				
Golden plover	10	9/13	10	9/13	5	9/17				
Common snipe	Summer	resident	400	9/17	1	10/12				
Spotted sandpiper	Summer	resident	100	9/13	1	11/3				
Pectoral sandpiper	10	9/8	90	9/15	5	9/17				
Least sandpiper	10	9/8	10	9/8	3	9/15				
Lesser yellowlegs	30	9/1	100	9/13	2	10/28				
Black tern	Summer	resident	150	9/15	10	9/22				
Common tern	Summer	resident	100	9/13	5	9/24				
Ring-billed gull	Summer	visitor	90	10/25	10	11/2				
Herring gull	Summer	visitor	20	10/25	2	11/2				

(over)

(1)	(2)		(3)		(4)		(5)	(6)
III. Doves and Pigeons:								
Mourning dove	1	10/12						
White-winged dove								
Osprey	Occasional visitor							
Turkey vulture	2	9/3			4	9/22		
IV. Predaceous Birds:								
Bald Golden eagle	Summer resident		9/13	11/1	1	12/5		
Duck Hawk	1	12/26	1	12/26	1	12/26		
Horned owl	Resident		10	9/1	1	11/30		
Magpie	1	10/20			2	12/31		
Raven	Resident		10	10/29				
Crow	Resident		500	10/12	2	12/31		
Barred owl	Resident		20	9/1				
Screech owl	Resident		10	9/1				
Snowy owl	1	11/13	1	11/14	1	12/23		
Marsh hawk	Summer resident		25	9/8	3	11/2		
Rough-legged hawk	"	"	20	9/8	10	11/13		
Broad-winged hawk	"	"	20	9/8				
Red-tailed hawk	"	"	15	9/8	9	11/2		
Goshawk	Resident		1	12/3	1	12/23		
Sparrow hawk	Summer resident		75	9/8				
Sharp-shinned hawk	"	"	5	9/13				
Cooper's hawk	1	10/7						

Reported by David E. Pospichal

Carl E. Pospichal; Refuge Manager

INSTRUCTIONS

(1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes)
II. Shorebirds, Gulls and Terns (Charadriiformes)
III. Doves and Pigeons (Columbiformes)
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total number of the species using the refuge during the period concerned.

INT.-DUP. SEC., WASH., D.C.

59317

3-1750
Form NR-1C
(Sept. 1960)

WATERFOWL HUNTER KILL SURVEY

Refuge Rice Lake N.W.R.

Year 1971

(1) Weeks of Hunting	(2) No. Hunters Checked	(3) Hunter Hours	(4) Waterfowl Species and Nos. of Each Bagged	(5) Total Bagged	(6) Crippling Loss	(7) Total Kill	(8) Est. No. of Hunters	(9) Est. Total Kill
			No waterfowl hunting on refuge.					

(over)

INSTRUCTIONS

(1) The first week of hunting begins with opening day and ends at the close of hunting 6 days later. Successive weeks follow the same pattern.

(2) The goal is to survey a minimum of 25 percent of refuge hunters each week and to record data only from those who have completed their day's hunting. This information should be collected during each day of the week and in each area hunted in relative proportion to the hunter effort expended. When the 25 percent goal cannot be achieved, particular care should be taken to collect representative data.

(3) Record the total number of hours the hunters spent hunting on the refuge.

(4) List waterfowl species in decreasing order of numbers bagged. Sample entry: Mallard (61), Pintail (36), Redhead (16), Gadwall (11), Widgeon (6), Coot (4), Canada Goose (3), Green-winged Teal (1).

(5) Record total numbers of waterfowl bagged.

(6) Record total numbers of waterfowl reported knocked down but not recovered.

(7) Total of Columns 5 and 6.

(8) Estimate the total number of hunters who hunted on the refuge during the week, including hunters checked (Column 2).

(9) Kill sample projected to 100 percent. Column 9 = $\frac{\text{Column 8}}{\text{Column 2}}$ x Column 7.

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge [redacted] Months of [redacted] to [redacted], 19[redacted]

(1) Species	(2) Density	(3) Young Produced			(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres Per Bird	Number broods observed	Estimated Total	Percentage	Hunting	For Re-stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ruffed grouse	[redacted] timber & brush	16	10	200		100			300	
Sharp-tailed grouse	1,200 acres grass, brush & upland	30	3	20					30	
Woodcock	[redacted] timber, brush, grass & marsh	160		10					20	

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS*

(1) SPECIES: Use correct common name.

(2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.

(4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.

(5) REMOVALS: Indicate total number in each category removed during the report period.

(6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.

(7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

*Only columns applicable to the period covered should be used.

3-1[illegible]3
Form NR-3
(June 1945)

B[illegible] GAME

Refuge RICE LAKE Calendar Year 1971

(1) Species	(2) Density	(3) Young Produced	(4) Removals				(5) Losses			(6) Introductions		(7) Estimated Total Refuge Population		(8) Sex Ratio
Common Name	Cover types, total Acreage of Habitat	Number	Hunting	For Re-stocking	Sold	For Research	Predation	Disease	Winter Loss	Number	Source	At period of Greatest use	As of Dec. 31	
White-tailed deer	12,000 acres marsh and upland	30										100	50	
Moose	" " " "											2	-	
Black bear	" " " "	5										10	5	

Remarks: Moose transient.
No state big game gun season - low deer population given as reason.

Reported by Carl E. Pospichal
Refuge Manager

INSTRUCTIONS

Form NR-3 - BIG GAME

(1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisiana white-tailed deer.

(2) DENSITY: Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge: once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated total number of young produced on refuge.

(4) REMOVALS: Indicate total number in each category removed during the year.

(5) LOSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.

(6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.

(7) TOTAL REFUGE POPULATION: Give the estimated population of <u>each species</u> on the refuge at period of its greatest abundance and also as of Dec. 31.

(8) SEX RATIO: Indicate the percentage of males and females of each species as determined from field observations or through removals.

3-1755
Form R-5
6076

DISTRICT

Refuge Rice Lake N.W.R. Year 19 71

Botulism

Period of outbreak NONE

Period of heaviest losses _____

Losses:

	Actual Count	Estimated
(a) Waterfowl		
(b) Shorebirds		
(c) Other		

Number Hospitalized	No. Recovered	% Recovered
(a) Waterfowl		
(b) Shorebirds		
(c) Other		

Areas affected (location and approximate acreage) _____

Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc.

Condition of vegetation and invertebrate life _____

Remarks _____

Lead Poisoning or other Disease

Kind of disease NONE

Species affected _____

Number Affected Species	Actual Count	Estimated

Number Recovered _____

Number lost _____

Source of infection _____

Water conditions _____

Food conditions _____

Remarks _____

3-1757
Form NR-7
(Rev. June 1960)

(1)

NONAGRICULTURAL COLLECTI[illegible], RECEIPTS, AND PLANTINGS

Refuge Rice Lake N.W.R. Year 1971

	Collections and Receipts (Seeds, rootstocks, trees, shrubs)						Plantings (Marsh - Aquatic - Upland)						
Species	Amount (Lbs., bus., etc.)	(2) C or R	Date	Method or Source	Cost	(3) Total Amount on Hand	Location of Area Planted	Rate of Seeding or Planting	Amount Planted (Acres or Yards of Shoreline)	Amount and Nature of Propagules	Date	Survival	Cause of Loss
Wild Rice	4,086	C	9/8 to 9/20	Hand flail by Indians			Area to north east of landing to 200 yards off shore	40#/acre	90 acres	wild rice	9/8 to 9/20	Unknown	

(1) Report agronomic farm crops on Form NR-8
(2) C = Collections and R = Receipts
(3) Use "S" to denote surplus

Total acreage planted:
Marsh and aquatic 90
Hedgerows, cover patches
Food strips, food patches
Forest plantings

Remarks: 200 pounds retained and donated to the State of Minnesota for planting into their new Kimberly development adjacent to refuge. * Results of survival will not be known until spring and summer of 1972.

3-1758
Form NR-8
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge [redacted] LAKE N.W.R. County [redacted] - PINE State MINNESOTA

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return Harvested		Government's Share or Return Unharvested		Total Acreage Planted	Green Manure, Cover and Waterfowl Browsing Crops Type and Kind	Total Acreage
	Acres	Bu./Tons	Acres	Bu./Tons	Acres	Bu./Tons			
[redacted]orn					28	35	28	Mowed hay strips	145
Oats					24	25	24	Rye	21
[redacted]uckwheat					23	15	23		
							75		166
								Fallow Ag. Land	

No. of Permittees: Agricultural Operations _____ Haying Operations 9 Grazing Operations 1

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	GRAZING	Number Animals	AUM'S	Cash Revenue	ACREAGE
				1. Cattle	15	75	$ 75.00	
				2. Other				
				1. Total Refuge Acreage Under Cultivation				250
Hay - Wild	575		$ 575.00	2. Acreage Cultivated as Service Operation				250

DIRECTIONS FOR PREPARING FORM NR-8
CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested - Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested - Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops - Specify the acreage, kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.

INT.DUP.,D.C.61-88850

3-1570
NR-8a

REFUGE GRAIN REPORT

Refuge RICE LAKE N.W.R. Months of JAN. through DECEMBER, 19 71

(1) Variety*	(2) On Hand Beginning of Period	(3) Received During Period	(4) Total	(5) Grain Disposed of				(6) On Hand End of Period	(7) Proposed or Suitable Use*		
				Transferred	Seeded	Fed	Total		Seed	Feed	Surplus
Corn	225	-	225			50	50	175		175	
Rye	83	-	83		23		23	60	60		
Oats	48		48			29	29	19	19		

(8) Indicate shipping or collection points

(9) Grain is stored at Refuge Grainery

(10) Remarks

*See instructions on back.

16—61482-1

NR-8a

REFUGE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)—55 lb., corn (ear)—70 lb., wheat—60 lb., barley—50 lb., rye—55 lb., oats—30 lb., soy beans—60 lb., millet—50 lb., cowpeas—60 lb., and mixed—50 lb. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

(1) List each type of grain separately and specifically, as flint corn, yellow dent corn, square deal hybrid corn, garnet wheat, red May wheat, durum wheat, spring wheat, proso millet, combine milo, new era cowpeas, mikado soy beans, etc. Mere listing as corn, wheat, and soybeans will not suffice, as specific details are necessary in considering transfer of seed supplies to other refuges. Include only domestic grains; aquatic and other seeds will be listed on NR–9.

(3) Report all grain received during period from all sources, such as transfer, share cropping, or harvest from food patches.

(4) A total of columns 2 and 3.

(6) Column 4 less column 5.

(7) This is a proposed break-down by varieties of grain listed in column 6. Indicate if grain is suitable for seeding new crops.

(8) Nearest railroad station for shipping and receiving.

(9) Where stored on refuge: "Headquarters granary," etc.

(10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

16—61482-1 U. S. GOVERNMENT PRINTING OFFICE

3-1761
Form NR-11

TIMBER REMOVAL

Refuge RICE LAKE N.W.R. Year 1971

Permittee	Permit No.	Unit or Location	Acreage	No. of Units Expressed in B. F., ties, etc.	Rate of Charge	Total Income	Reservations and/or Diameter Limits	Species Cut
Alfred Koski	70-11	Compt. 9		170 Cords	$203.00	$203.00		Aspen

Total acreage cut over.....

Total income $203.00

No. of units removed B. F.....

Cords 170

Ties.....

Method of slash disposal Dispersal